

Test Report No.10047890 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 10047890AppendixD)

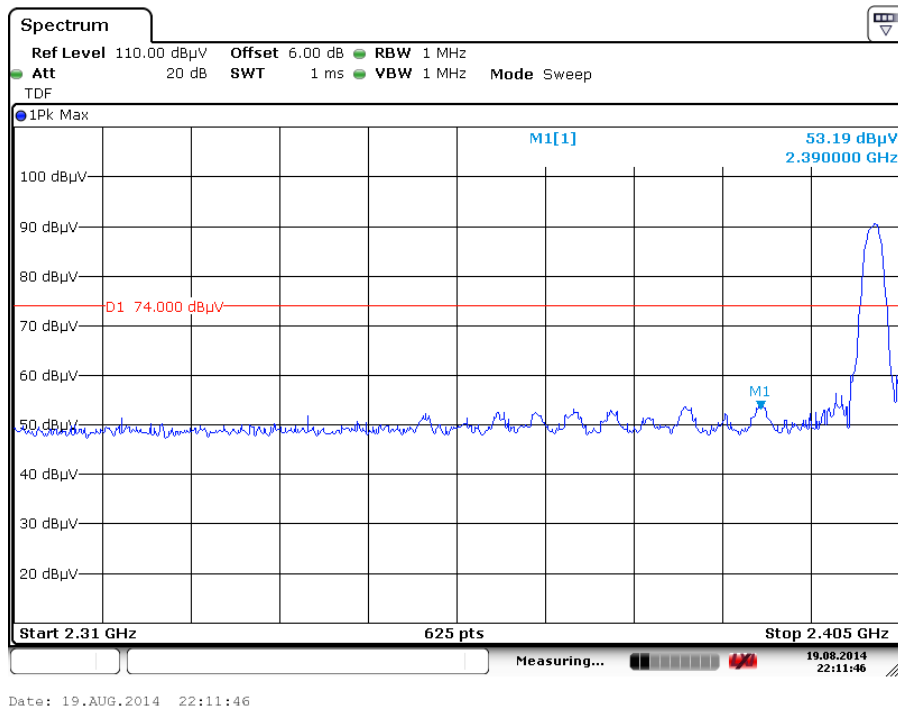
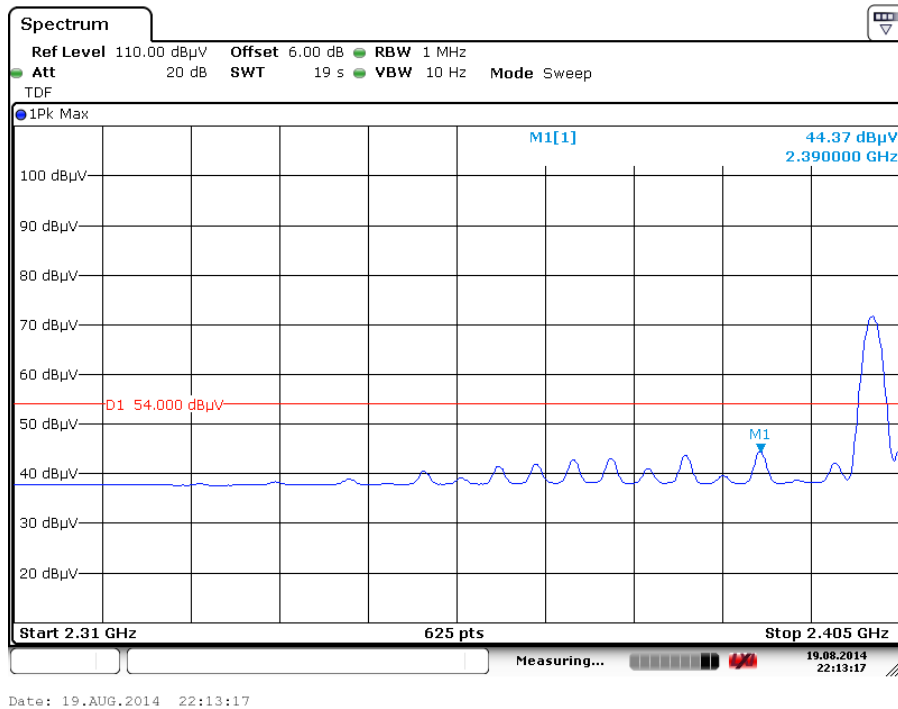
Contents

Spurious Emissions, Band Edges, 2.35-2.5G	2
Spurious Emissions, TX Mode, 1-18G.....	6
Spurious Emissions, TX Mode, 18-26G.....	12
Spurious Emissions, TX Mode, 30M-1G	18

Spurious Emissions, Band Edges, 2.35-2.5G

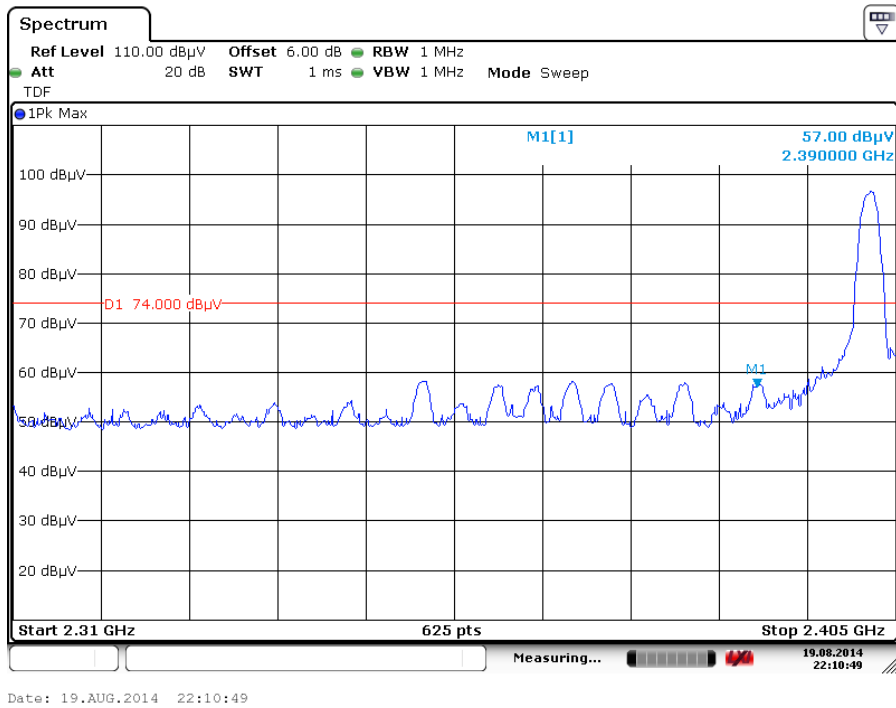
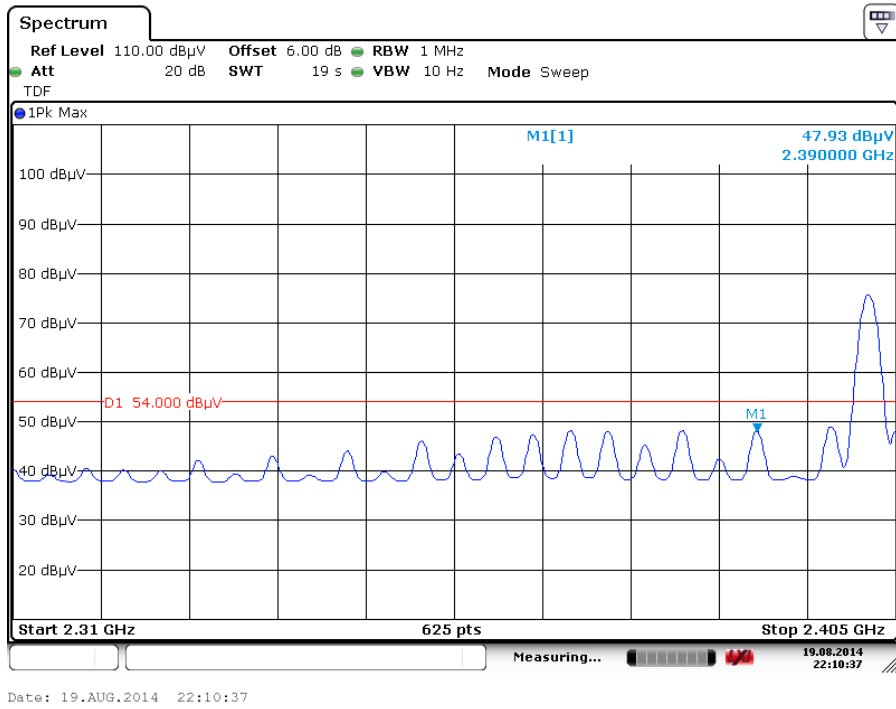
Radiated Bandedge (GFSK)

Low Channel (Hor)



Spurious Emissions, Band Edge, 2.35-2.5G

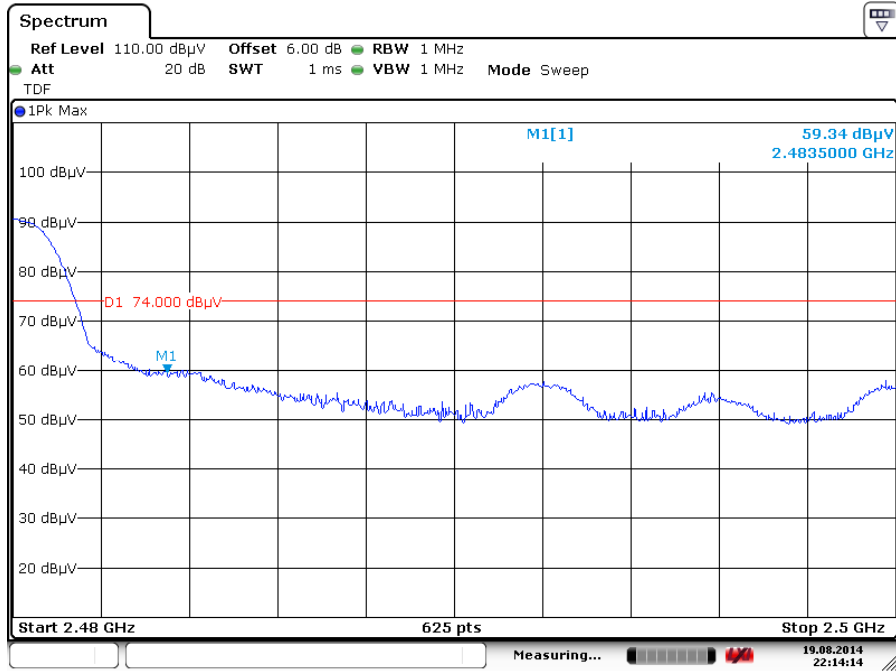
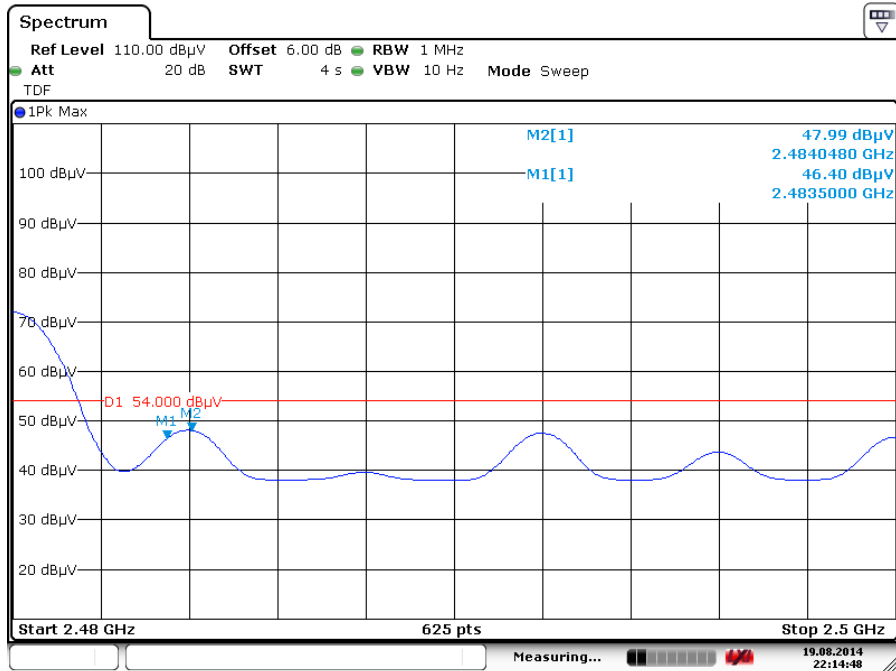
Low Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

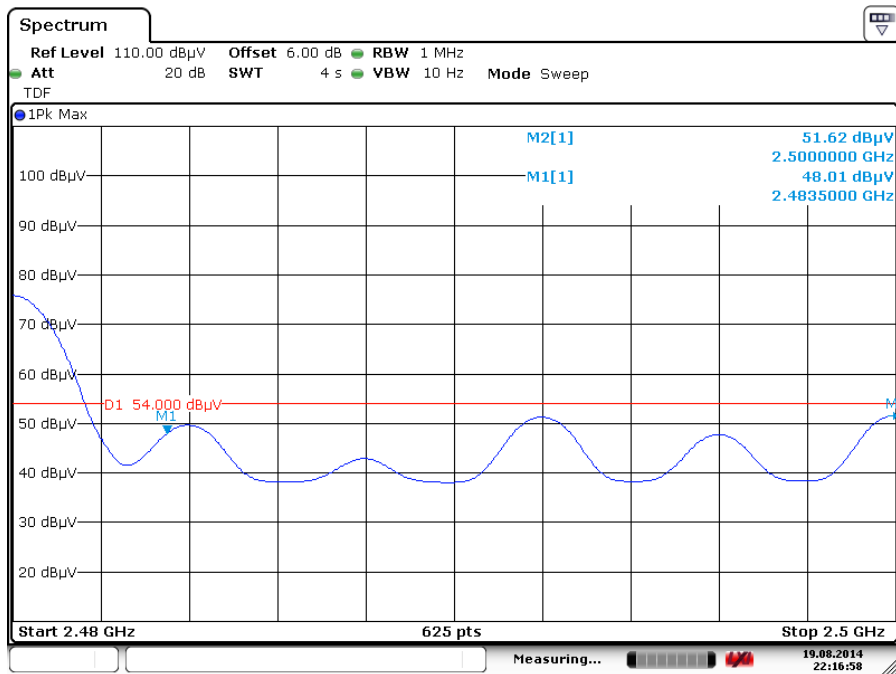
Radiated Bandedge (GFSK)

High Channel (Hor)

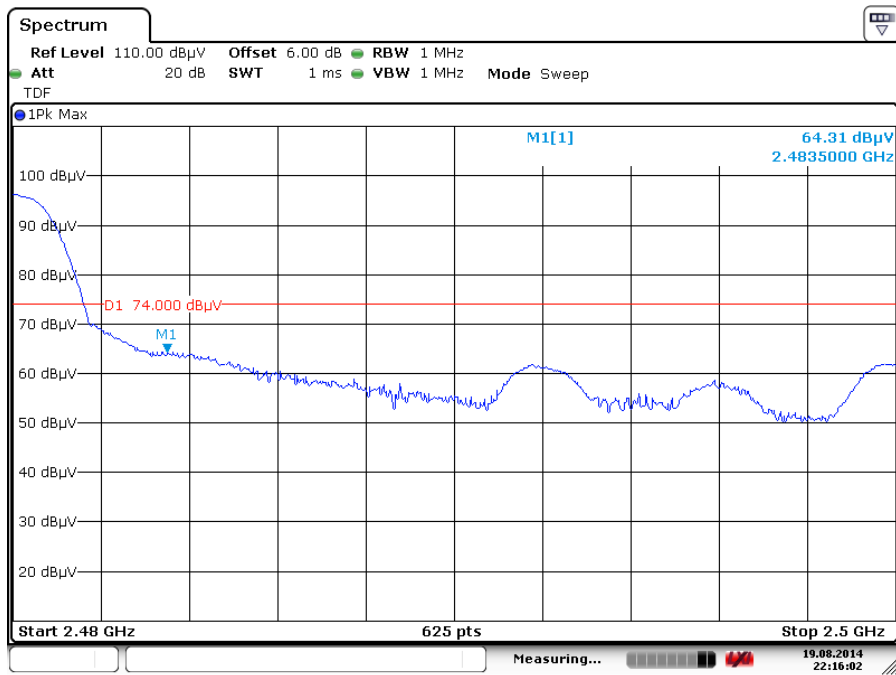


Spurious Emissions, Band Edge, 2.35-2.5G

High Channel (Ver)



Date: 19.AUG.2014 22:16:58



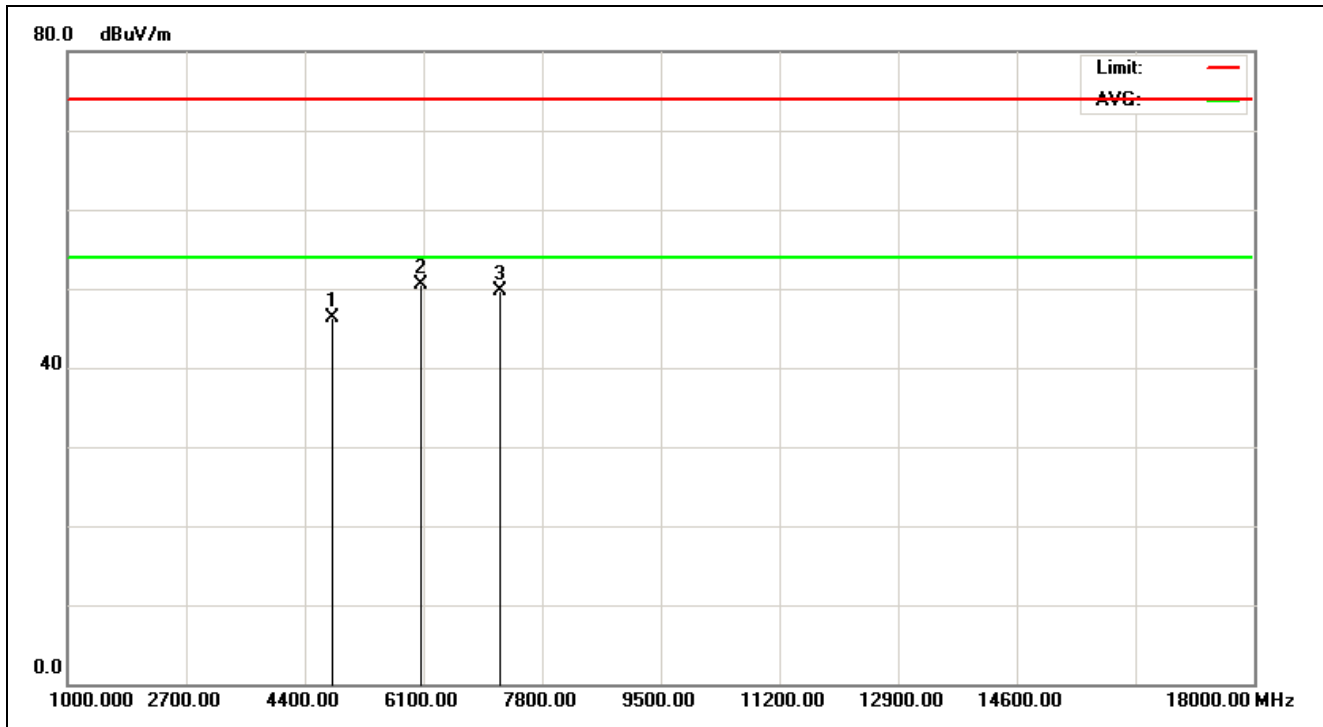
Date: 19.AUG.2014 22:16:02

Spurious Emissions, Band Edge, 2.35-2.5G

Spurious Emissions, TX Mode, 1-18G

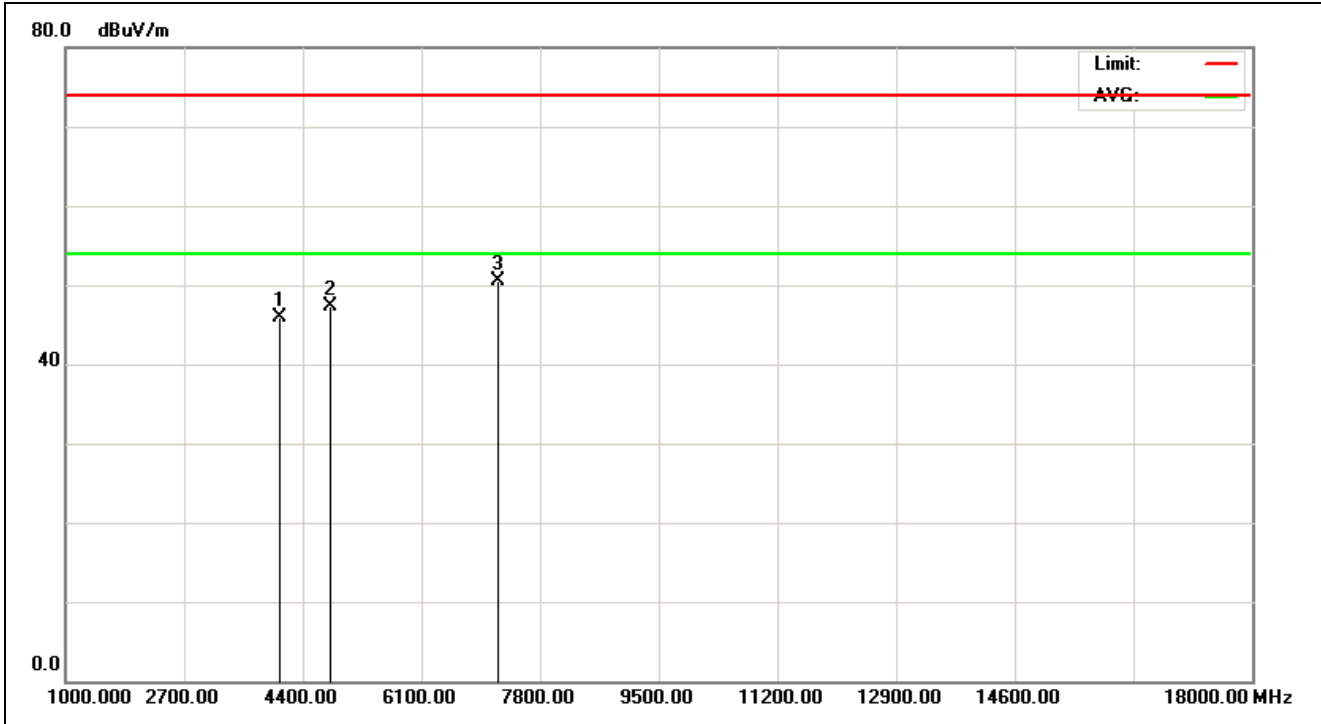


TUV Rheinland Taiwan
 11F.,No.758,Sec. 4,Bade Rd.,Songsan Dist.,Taipei 105,Taiwan
 Tel:+886-2-2172-7000 Fax:+886-2-2528-0018



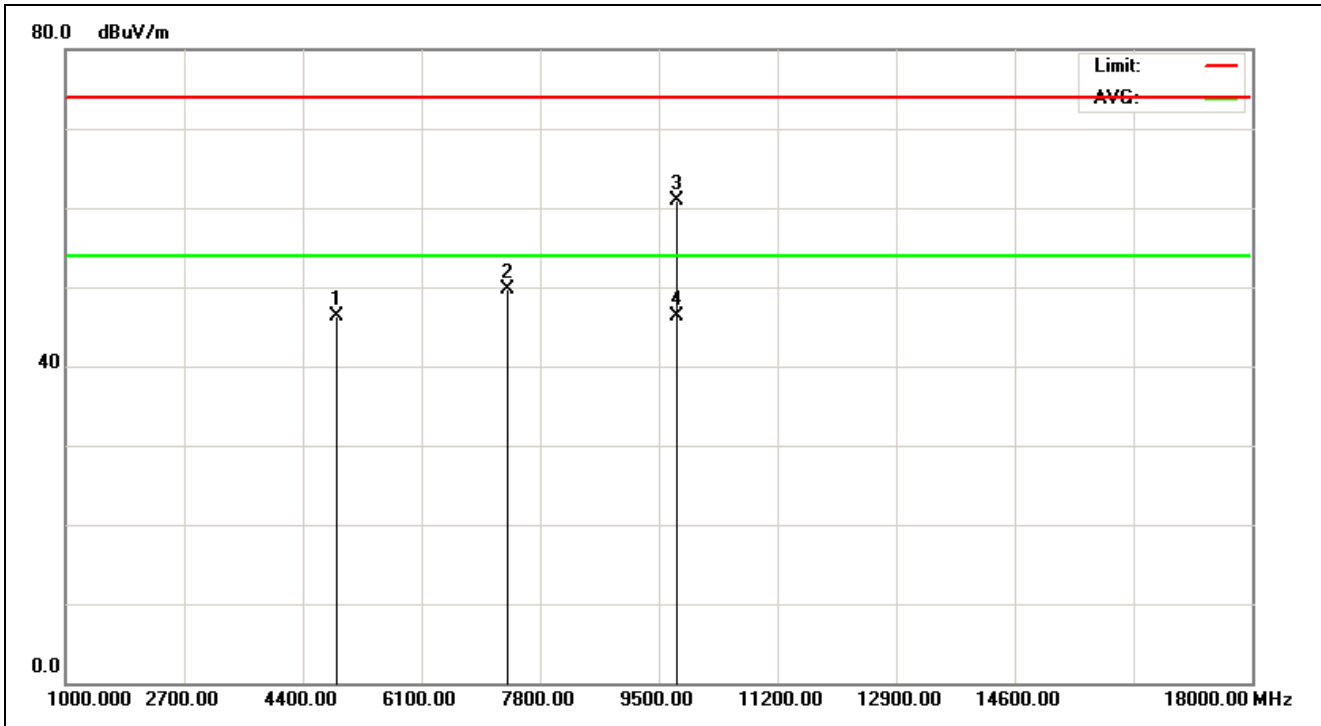
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:23:39
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2402		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.59	48.88	46.29	74.00	-27.71	peak			
2	6067.308	3.94	46.52	50.46	74.00	-23.54	peak	100	176	
3	7206.000	5.44	44.24	49.68	74.00	-24.32	peak			



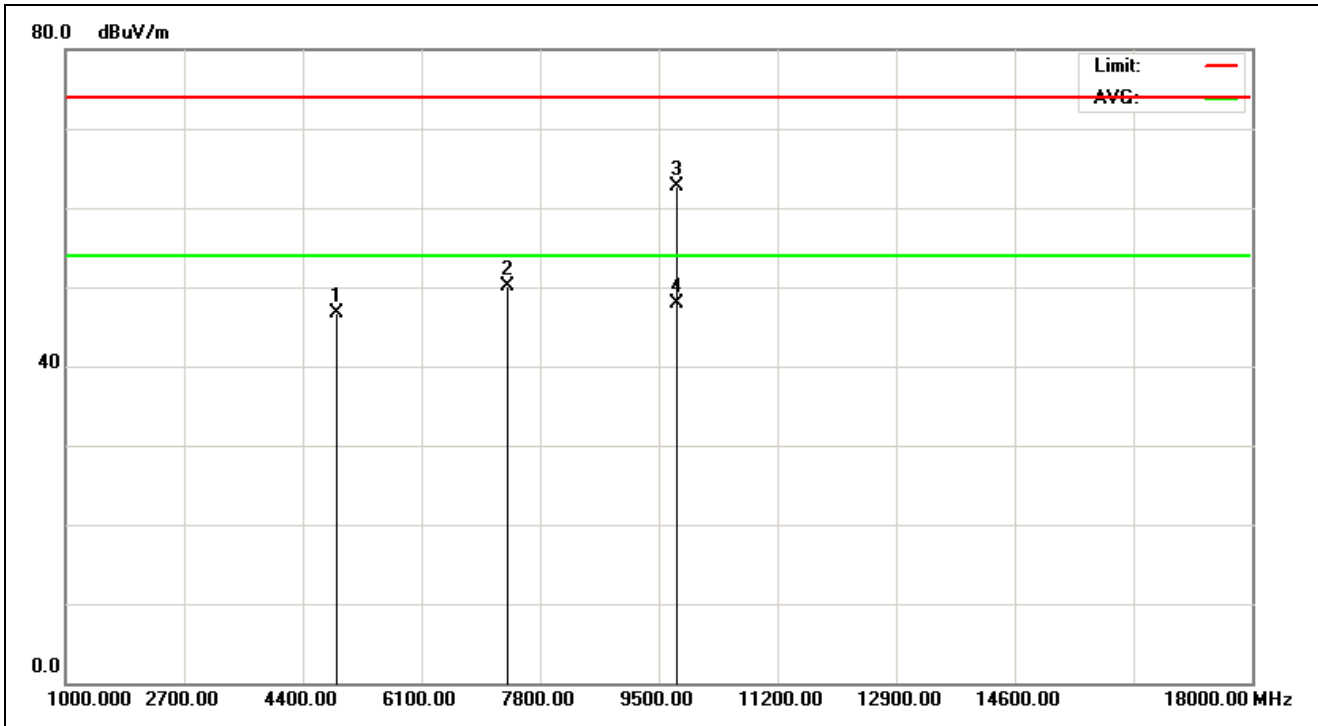
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:24:41
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2402		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4078.526	-4.99	50.92	45.93	74.00	-28.07	peak	100	253	
2	4804.000	-2.59	49.98	47.39	74.00	-26.61	peak			
3	7206.000	5.44	45.12	50.56	74.00	-23.44	peak			



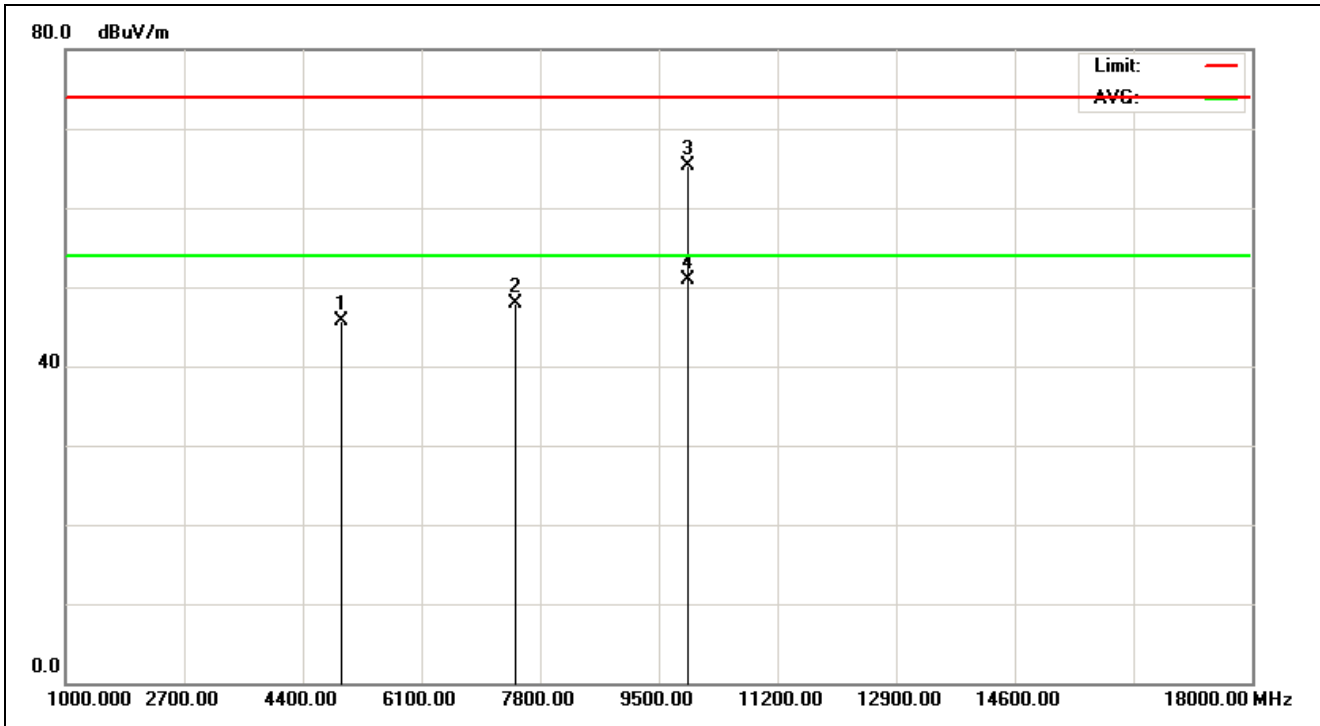
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:26:42
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2442		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4884.000	-2.38	48.65	46.27	74.00	-27.73	peak			
2	7326.000	5.78	43.95	49.73	74.00	-24.27	peak			
3	9768.000	5.95	54.93	60.88	74.00	-13.12	peak	100	341	
4	9768.000	5.95	40.33	46.28	54.00	-7.72	AVG	100	341	



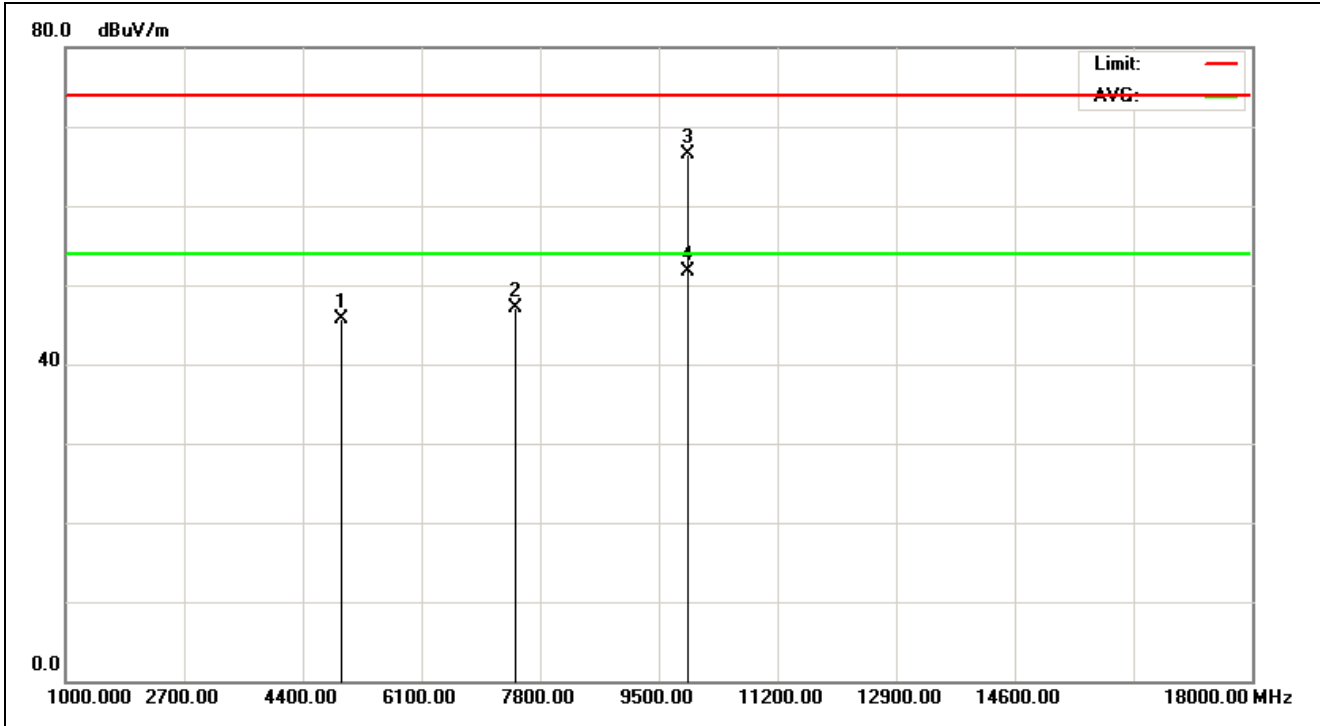
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:27:44
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2442		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4884.000	-2.38	49.11	46.73	74.00	-27.27	peak			
2	7326.000	5.78	44.40	50.18	74.00	-23.82	peak			
3	9768.000	5.95	56.72	62.67	74.00	-11.33	peak	100	27	
4	9768.000	5.95	41.86	47.81	54.00	-6.19	AVG	100	27	



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:15:03
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2480		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.19	47.96	45.77	74.00	-28.23	peak			
2	7440.000	6.09	41.74	47.83	74.00	-26.17	peak			
3	9920.000	5.64	59.65	65.29	74.00	-8.71	peak	100	346	
4	9920.000	5.64	45.23	50.87	54.00	-3.13	AVG	100	346	



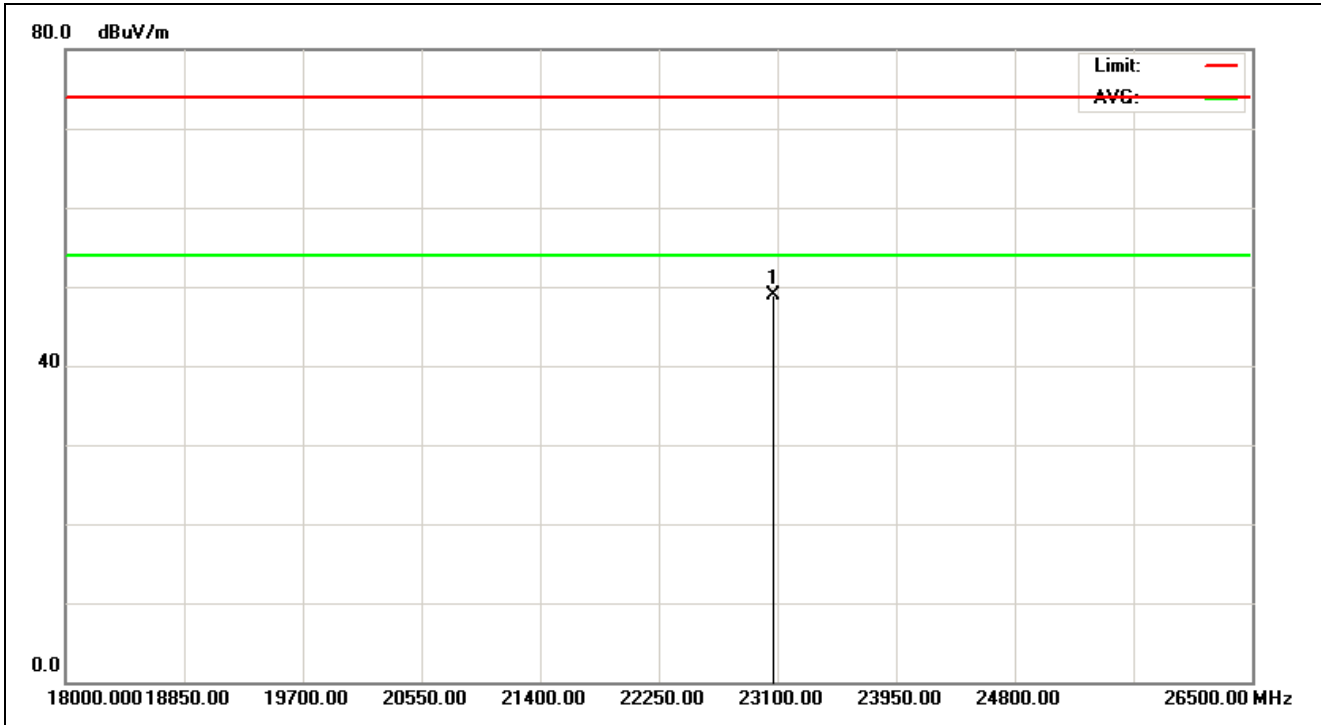
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:16:05
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2480		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-2.19	47.93	45.74	74.00	-28.26	peak			
2	7440.000	6.09	41.02	47.11	74.00	-26.89	peak			
3	9920.000	5.64	60.95	66.59	74.00	-7.41	peak			
4	9920.000	5.64	46.07	51.71	54.00	-2.29	AVG	100	277	

Spurious Emissions, TX Mode, 18-26G

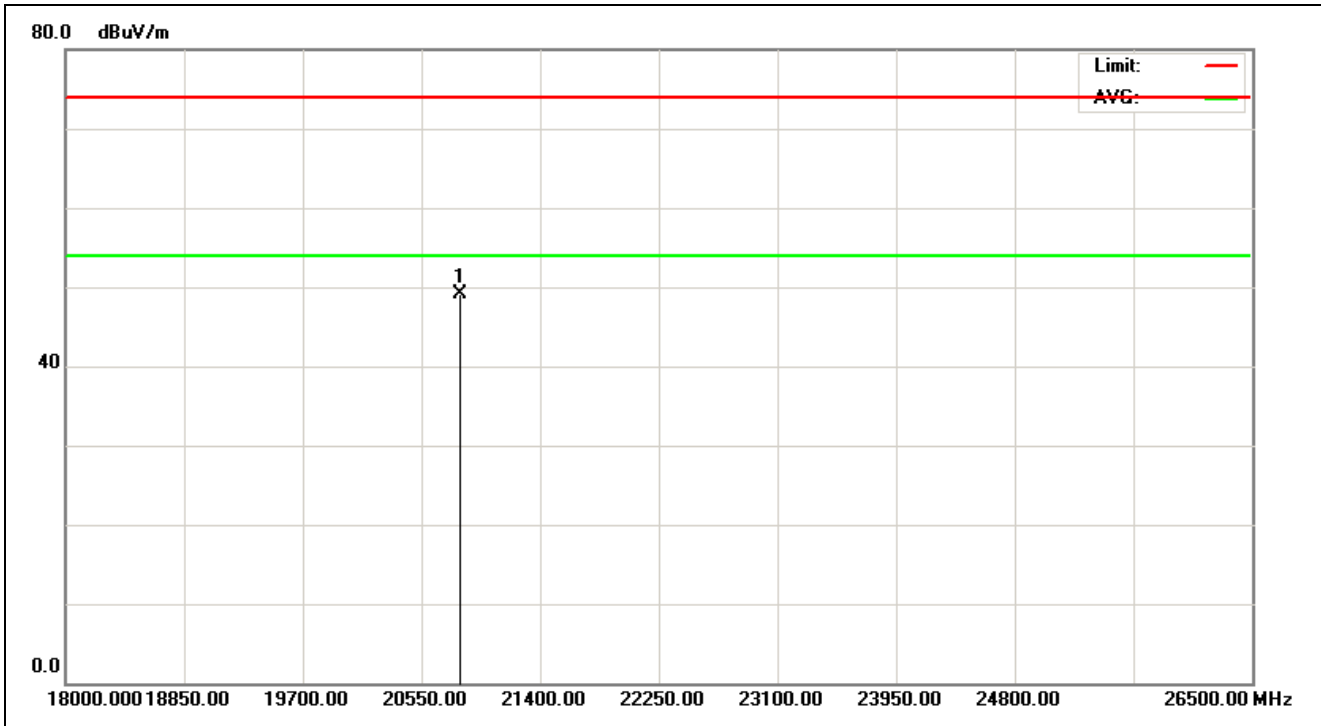


TUV Rheinland Taiwan
 11F.,No.758,Sec. 4,Bade Rd.,Songsan Dist.,Taipei 105,Taiwan
 Tel:+886-2-2172-7000 Fax:+886-2-2528-0018



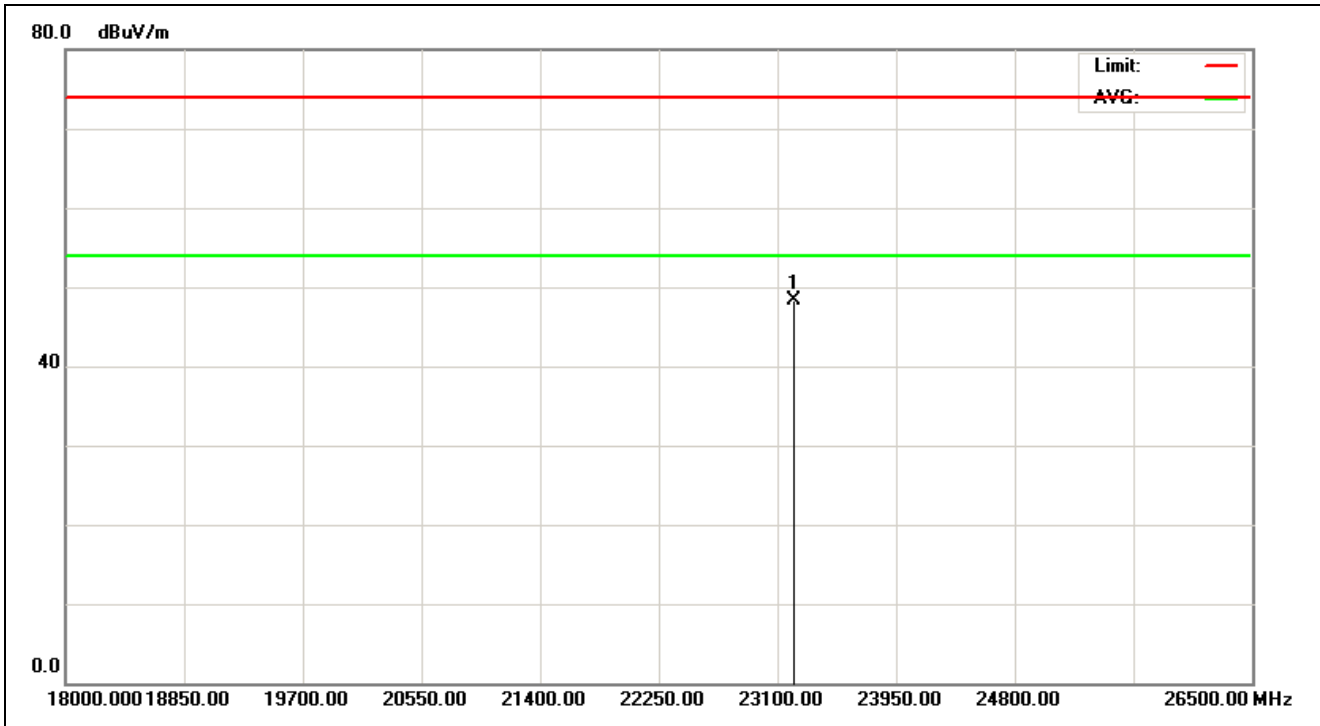
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:49:25
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2402		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23067.308	30.25	18.74	48.99	74.00	-25.01	peak			



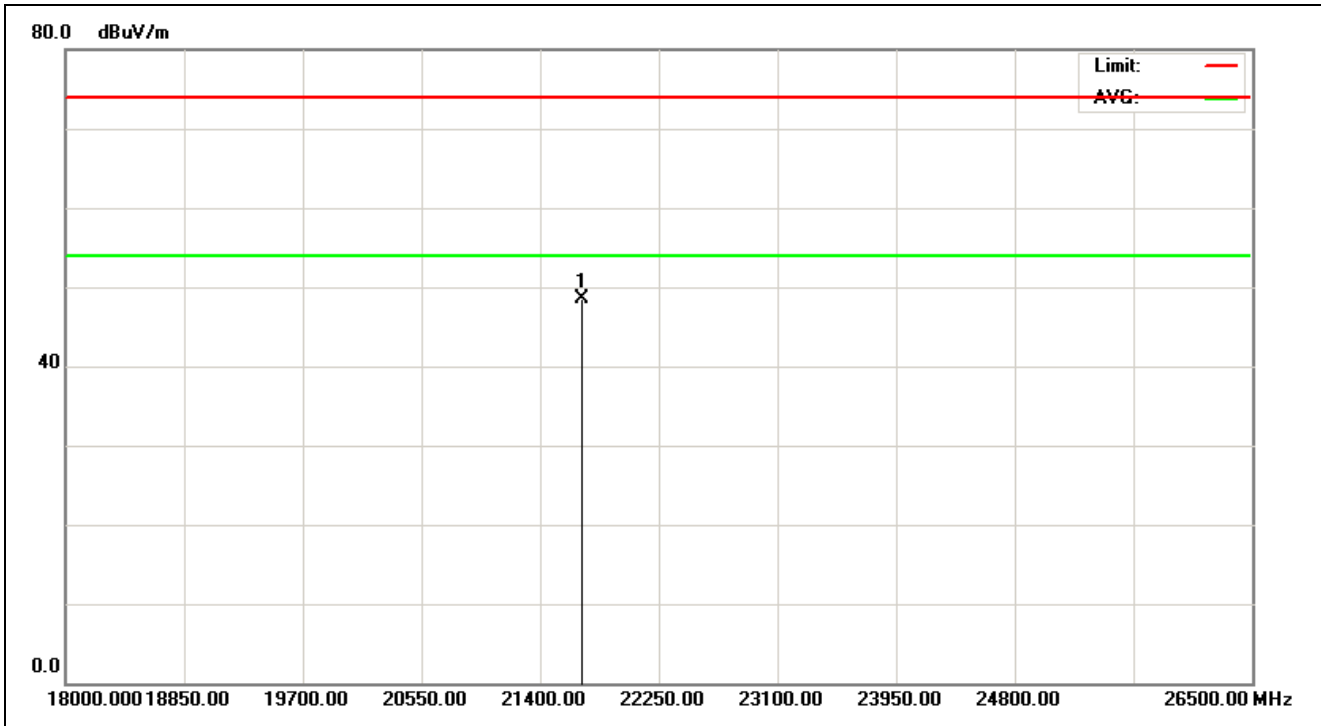
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:50:01
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2402		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20833.333	29.57	19.47	49.04	74.00	-24.96	peak			



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:50:31
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2442		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23217.147	30.20	18.03	48.23	74.00	-25.77	peak			



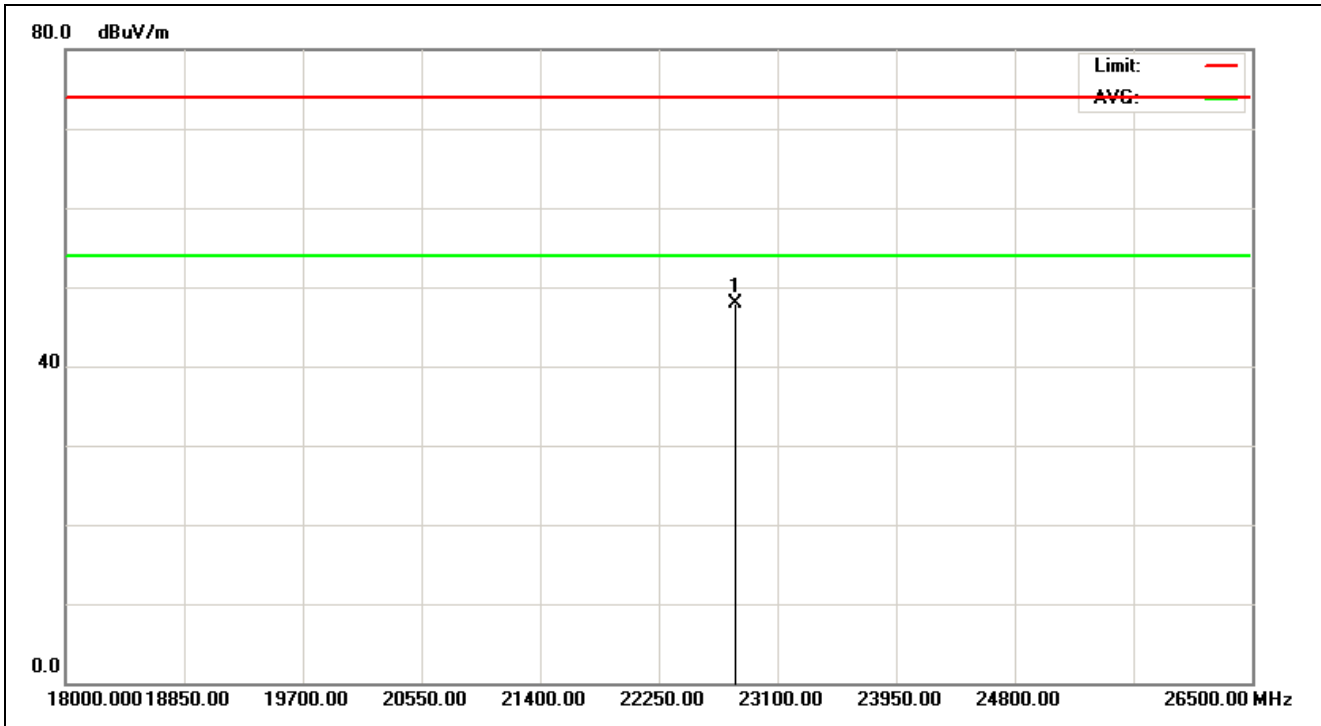
Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:51:17
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2442		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	21705.128	29.42	19.10	48.52	74.00	-25.48	peak			



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 22:52:31
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2480		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	23040.064	30.27	17.89	48.16	74.00	-25.84	peak			



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 22:52:56
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:	CH2480		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	22794.872	29.75	18.24	47.99	74.00	-26.01	peak			

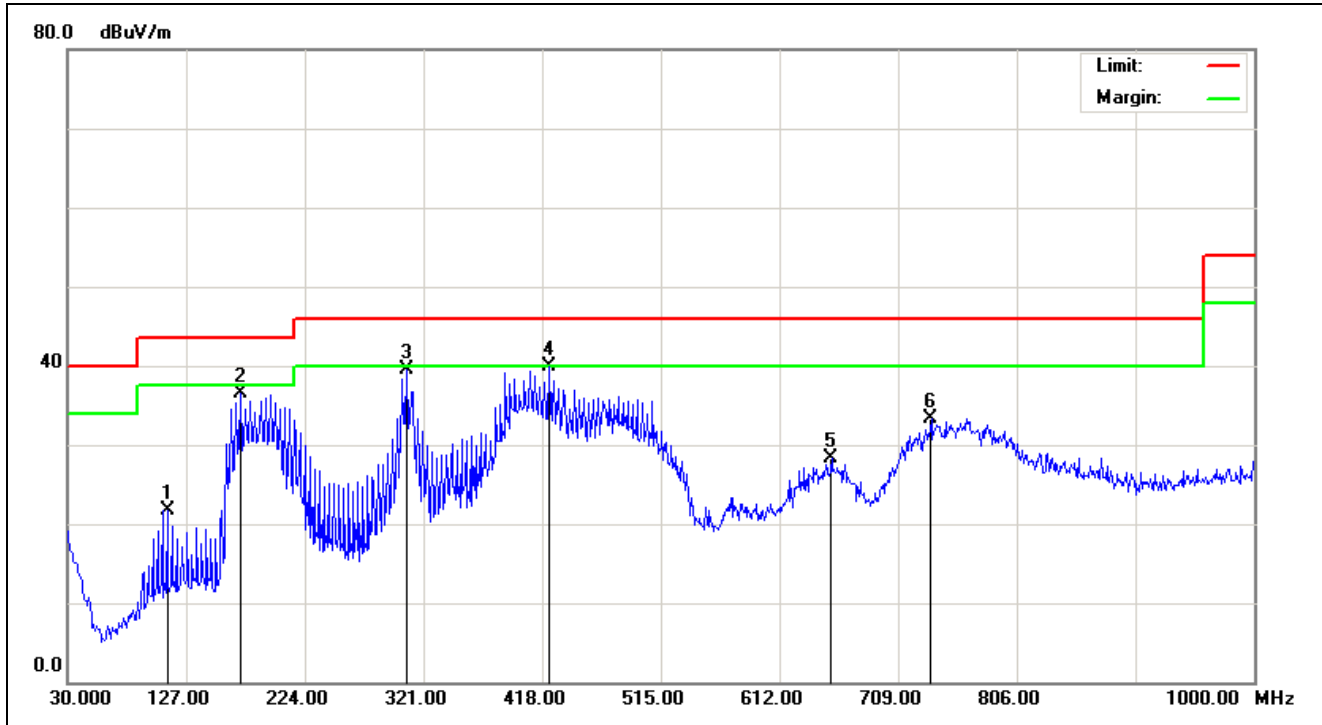
Spurious Emissions, TX Mode, 30M-1G



TUV Rheinland Taiwan

11F.,No.758,Sec. 4,Bade Rd.,Songsan Dist.,Taipei 105,Taiwan

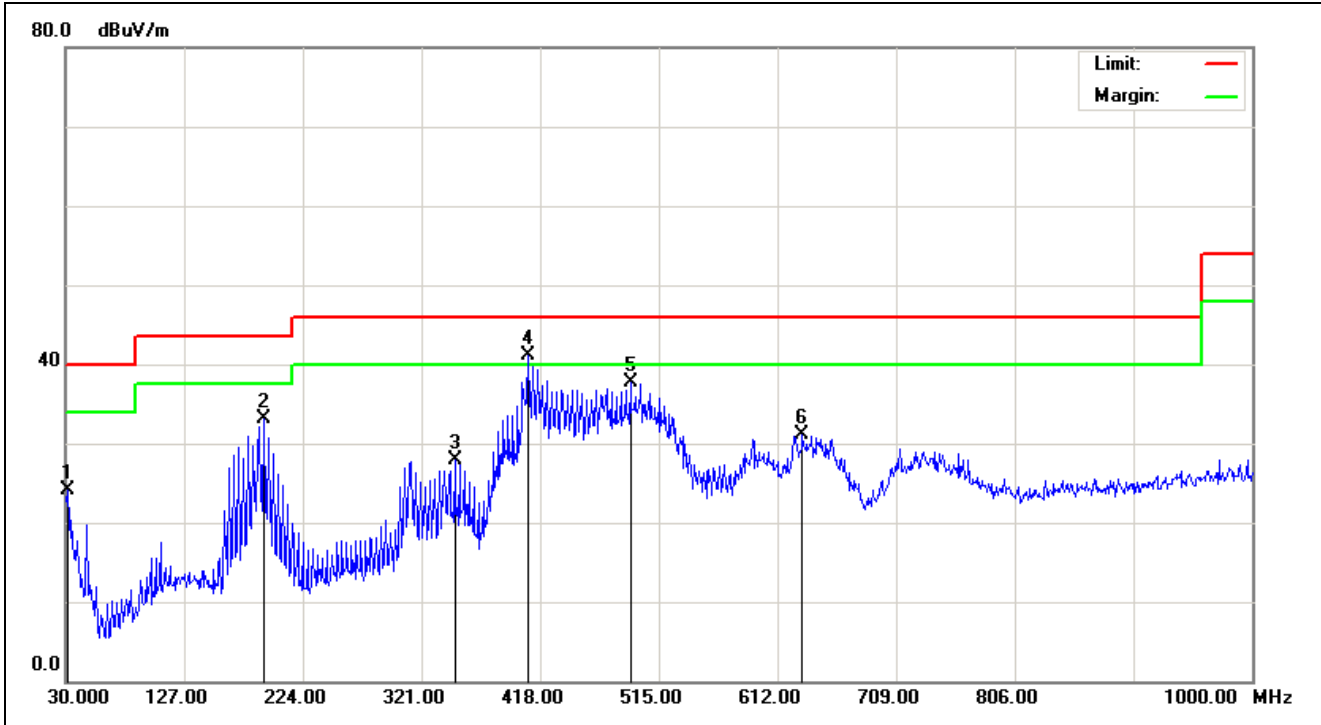
Tel:+886-2-2172-7000 Fax:+886-2-2528-0018



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2014/8/19 23:00:45
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:			
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	111.4800	-13.48	35.16	21.68	43.50	-21.82	QP	100	237	
2	171.6200	-14.93	51.34	36.41	43.50	-7.09	QP	100	176	
3	307.4200	-10.33	49.76	39.43	46.00	-6.57	QP	100	179	
4	423.8199	-8.40	48.23	39.83	46.00	-6.17	QP	100	280	
5	654.6799	-5.34	33.64	28.30	46.00	-17.70	QP	100	173	
6	736.1599	-4.36	37.69	33.33	46.00	-12.67	QP	100	186	

Spurious Emissions, Mains, 150kHz - 30MHz



Service No.:	114023945-RF FCC	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2014/8/19 23:01:48
Applicant:	Vencer	Test Rating:	DC 3V
Product:	Bluetooth Low Energy Tag	Temp.(°C)/Hum.(%):	25(°C)/56%
Model No.:	VK-8001	Test Engineer:	Hugo Chang
Test Mode:			
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	31.9400	-6.93	30.99	24.06	40.00	-15.94	QP	100	161	
2	191.9900	-15.23	48.38	33.15	43.50	-10.35	QP	100	278	
3	348.1600	-9.44	37.28	27.84	46.00	-18.16	QP	100	241	
4	408.3000	-8.60	49.64	41.04	46.00	-4.96	QP	100	241	
5	491.7200	-7.43	45.12	37.69	46.00	-8.31	QP	100	113	
6	632.3700	-5.58	36.72	31.14	46.00	-14.86	QP	100	276	